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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,572	10/11/2005	Gerhard Hoefle	930008-2197	5809

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EXAMINER	
ANGELL, JON E	

ART UNIT	PAPER NUMBER
1635	

MAIL DATE	DELIVERY MODE
07/24/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,572	HOEFLE ET AL.	
	Examiner	Art Unit	
	J. E. Angell	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) *2-6,8 and 10-34* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,7 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/21/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Action is in response to the communication filed on 4/21/2009.

The amendment filed 4/21/2009 is acknowledged and has been entered.

Applicant's arguments are addressed on a per section basis. The text of those sections of Title 35, U.S. Code not included in this Action can be found in a prior Office Action. Any rejections not reiterated in this action have been withdrawn as being obviated by the amendment of the claims and/or applicant's arguments.

Status of the Claims

Claims 1-34 are currently pending in the application and are addressed herein.

Claims 2-6, 8, 10-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/2/2008.

Claims 1, 7, 9 are examined herein.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication 2001/0053519 (FODOR et al.).

3. As previously indicated claim 1, part (iii) specifically recites, "an ssDNA molecule having a sequence which is complementary to the sequence of an ssDNA molecule according to (i) or (ii)." FODOR et al. teaches an array comprising all possible 10mers (see Example 2, beginning on page 12), which necessarily includes all possible 10mer sequences complementary to the ssDNA molecules of parts (i) and (ii). That is, the 10mer oligonucleotides taught by Fodor include sequences which have 100% complementary (as well as 90%-99% complementary) to the sequence of Figure 1. It is noted that the claim does not explicitly set forth any particular size limitation for the complementary ssDNA sequence of part (iii). Therefore, FODOR et al. anticipates claim 1.

4. Claims 1, 7, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,672,500 (LITWACK et al.).

5. As indicated above, claim 1, part (iii) specifically recites, "an ssDNA molecule having a sequence which is complementary to the sequence of an ssDNA molecule according to (i) or (ii)." It is noted that the claim does not explicitly set forth any particular size limitation for the complementary ssDNA sequence of part (iii).

Claim 7 is drawn to variants or mutants which result from substitution, deletion, or insertion of nucleotides… of an ssDNA according to claim 1, those variants and mutants encoding enzyme variants or enzyme mutants for the production of secondary substance(s)

having properties characteristic of tubulysins. It is noted that the second paragraph of the specification reads:

> Tubulysins have a cytostatic or antimitotic action on fungi, human tumours or cancer cell lines and other animal cell cultures (cf. Table). Within the cells, they result in rapid degradation of the microtubule structure. The actin skeleton is preserved. Under the influence of tubulysins, adherently growing L929 mouse cells increase in volume without dividing and develop large cell nuclei, **which then break up in an apoptotic process**. (Emphasis added).

Therefore, the specification defines that a characteristic of tubulysins is activation of apoptosis. Therefore, claim 7 encompasses any variant/mutant sequence of claim 1 wherein the variant/mutant sequence encodes an enzyme that is involved in producing a secondary substance that has properties characteristic of tubulysins, which includes activation of apoptosis.

Claim 9 encompasses a vector having a DNA molecule according to claim 1.

LITWACK et al. teach an enzyme designated "Mch2" which is described as an enzyme which possess protease activity and can cleave poly(ADP-ribose) (PARP) suggesting that it is involved in PARP cleavage observed during cellular apoptosis. LITWACK et al. characterize Mch2 as a "Ced-3/ICE-like protease and a candidate mediator of apoptosis in mammalian cells." (See column 3, lines 1-10). Furthermore, LITWACK et al. teach the polypeptide sequence of Mch2 (see column 3, lines 35-45) as well a nucleic acid sequence that encodes Mch2 and a recombinant expression vector which comprises a nucleic acid sequence which encodes Mch2 (e.g., see claims 1-16, etc.). Furthermore, LITWACK also teaches methods of amplifying a sequence which encodes Mch2 using PCR to make double stranded products and cloning the sequence into vectors such as plasmids (which are double stranded DNA vectors) (e.g., see column 5, line 63 through column 6, line 36). LITWACK also specifically teaches the

nucleotide sequence which encodes Mch2 (e.g., see SEQ ID NO:4, SEQ ID NO: 6) which at least include the sequence ATG, which is also found in the sequence of Figure 1 (e.g., see third line of sequence text of Figure 1 (SEQ ID NO:1)). Therefore, LITWACK teaches a sequence that encodes an enzyme that produces a substance having properties characteristics of tubulysins. Furthermore, a plasmid vector having a double stranded sequence encoding the enzyme would necessarily have a sequence that is complementary to the sequence of Figure 1, as the double stranded vector would include a sequence complementary to ATG.

Therefore, LITWACK et al. anticipates the instant claims.

Response to Arguments

6. Applicant's arguments filed 4/21/2009 have been fully considered but they are not persuasive.

7. Applicants argue that neither cited reference teaches an ssDNA molecule having a sequence which is complementary to the sequence of a ssDNA molecule according to (i) or (ii).

8. In response, it is respectfully pointed out that the ssDNA molecule of (iii) does not have any particular size limitations. Furthermore, (iii) encompasses "an ssDNA molecule having a sequence which is complementary to the sequence of an ssDNA molecule according to (i) or (ii)." Thus, all that is required of (iii) is that the ssDNA molecule has a sequence complementary to that in (i) or (ii). The oligomers of Fodor would include all possible 10mers that are at least 90% complementary, including all possible 10mers 100% complimentary to the sequence of Figure 1. Since there is no minimum size limitation for the complementary sequences of (iii), Fodor anticipates claim 1. It is also respectfully pointed out that claims 7 and 9 are not limited to

ssDNA molecules. As indicated above, LITWACK teaches a sequence that encodes a enzyme that can be considered a mutant or variant of the sequence of Figure 1, wherein the sequence encodes a enzyme that produces substances having tubulysin characteristics. Thus, LITWACK anticipates claim 7. Furthermore, claim 9 encompasses a vector that comprises a sequence having a sequence that is complementary to Figure 1. As indicated above, LITWACK teaches plasmid vectors, which are double stranded molecules, having sequences which encode said enzyme. Thus, LITWACK also anticipates claim 9.

Therefore, Applicants arguments are not persuasive.

Conclusion

9. **No claim is allowed.**

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. E. Angell whose telephone number is 571-272-0756. The examiner can normally be reached on Monday-Thursday 7:00 a.m.-5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Douglas Schultz can be reached on 571-272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. E. Angell/
Primary Examiner, Art Unit 1635